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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,460	12/08/2003	Aaron G. Arellano	02-0466.93	2907

7590 10/12/2006  
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EXAMINER

WONG, TINA MEI SENG

ART UNIT	PAPER NUMBER
2874	

DATE MAILED: 10/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

### Application No.

10/730,460

### Applicant(s)

ARELLANO, AARON G.

### Examiner

Tina M. Wong

### Art Unit

2874

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This Office action is responsive to Applicant's response submitted 11 August 2006.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.**

**Patent Application Publication 2002/0039467 to Amantea.**

In regards to claims 1, 6, 14 and 21, Amantea discloses a partially flexible substrate (318 & 323), said partially flexible substrate further comprising a heating element (324) and a length of pre-fabricated optical fiber (316) secured (via the tether element 320) to the substrate. But Amantea fails to specifically disclose the heating element for maintaining the circuit at a constant temperature. ([0030]; Figure 3) But Amantea fails to specifically disclose a heating element for maintaining said flexible circuit at a constant temperature.

However, an apparatus claim must be structurally distinguishable from the prior art. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function (*In re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997); See MPEP 2114 [R-1]). A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a

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prior art apparatus if the prior art apparatus teaches all the structural limitations of the claim (*Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987); see MPEP 2114 [R-1]).

The functional recitation of “a heating element for maintaining said flexible circuit at a constant temperature” has not been given patentable weight because it is narrative in form. In order to be given patentable weight, a functional recitation must be expressed as a “means” for performing the specified function, as set forth in 35 U.S.C. § 112, 6<sup>th</sup> paragraph, and must be supported by recitation in the claim of sufficient structure to warrant the presence of the functional language (*In re Fuller*, 1929 C.D. 172; 388 O.G. 279).

The Examiner further notes that the limitation “a heating element for maintaining said flexible circuit at a constant temperature” does not define any structure. The prior art meets the structural limitations of the claim and is capable of performing this function. Therefore, the prior art anticipates the claimed invention.

Furthermore, although Amantea fails to specifically disclose a length of pre-fabricated optical fiber, Amantea would need to decide a length of fiber to be formed on the substrate. Additionally, Amantea discloses the fiber to be secured to the substrate and therefore must be pre-fabricated in order to be secured to the substrate. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have used a length of pre-fabricated optical fiber.

In regards to claim 2-5, 17, 22-25 and 28-31, although Amantea fails to specifically disclose temperature sensors, although Amantea fails to specifically disclose temperature sensors, such as a thermistor, thermocouple or a resistance temperature detector, Amantea does disclose the temperature of the device to be important and therefore it would be important to

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carefully control the temperature. Therefore, a sensor would have been obvious at the time the invention was made to a person having ordinary skill in the art in order to tell the heating elements to control or monitor the circuit to maintain a constant temperature. Furthermore, thermistors, thermocouple or resistance temperature detectors are widely applied types of temperature sensors.

In regards to claim 10, Amantea fail to specifically disclose a temperature sensor embedded within the heating element. However, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have embedded the sensor within the heating element since the heating element relies on the sensor to determine how the circuit needs to be controlled in order to maintain a preferable constant temperature.

In regard to claims 7-9, 11-13, 15-16, 18-20 and 26-27, Amantea discloses multiple optical fibers (316A & 316B & 316C & 326) to be secured to a first and second surface of the substrate.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-31, received 11 August 2006 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tina M. Wong whose telephone number is (571) 272-2352. The examiner can normally be reached on Monday-Friday 8:30-5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
TMW

  
**SUNG PAK**  
**PRIMARY EXAMINER**